

The background of the slide is a photograph of a wind turbine under construction. The tower and nacelle are visible, with a lattice boom crane extending from the top. The scene is set against a bright, orange-hued sunset sky. The sun is low on the horizon, creating a strong silhouette effect on the turbine and the distant hills. The overall mood is industrial and sustainable.

elementpower

GC0105

Examples of reporting - Oct 2018

The proposer was asked to provide examples of reporting as a benchmarking exercise for the System Incidents Report.

National Grid is already producing and collecting data for other purposes – e.g. this ops forum report.

AGENDA ELECTRICITY OPERATIONAL FORUM		
Venue:	Park Plaza Riverbank London 18 Albert Embankment, London, SE1 7TJ	
Date:	4 July 2018	
Registration:	From 09:20 in the Plaza Suite Foyer – Conference Level -4	
Start Time:	10:00	
Directions:	Getting to the Venue	

Electricity Operational Forum – the Plaza Suite		
10:00	Welcome and Introduction	Robert Smith
10:10	Balancing Services Use of System (BSUoS) update	Mat Hutton
10:40	Vector Shift	Rob Westmancoat

nationalgrid

Vector Shift

Robert Westmancoat

LoM: Real-life events

Date	Fault	Loss (MW)
17 Mar '16 12:27	Grain Bus Coupler	470
20 Mar '16 16:13	Grain – Kingsnorth	200
22 May '16 11:15	Langage – Landulph	380
07 Jun '16 17:04	Cowley – Leighton Buzzard – Sundon	145
21 May '17 18:20	Littlebrook Reserve Bar	200
08 Jun '17 16:47	Cottam – Eaton Socon – Rye House	240
10 July '17 14:19	Bramford – Sizewell	300
17 July '17 15:26	Kensal Green Reserve Bar	400
27 Dec '17 02:44	Hinckley Point – Melksham	205
16 Jan '18 14:28	Alverdiscott – Indian Queens – Taunton	290
18 Jan '18 04:59	Burwell – Walpole	315

National Grid has a project to estimate system inertia.

The screenshot shows a web browser displaying an article on the National Grid website. The browser's address bar shows the URL: `nationalgridconnecting.com/project-sim-unlocks-inertia-issues/`. The page header includes the 'nationalgrid' logo, a language selector for 'UK | US [Select reg]', and a navigation menu with links for 'Home', 'Articles', 'Bulletins', 'Debate', and 'Contact'. Below the navigation is a blue banner with the word 'Connecting' in large white letters, followed by the tagline 'News, debate and analysis on the UK and European energy industry'. The article itself is dated 'Posted: 18 October 2017' and has '0 Comments'. The title of the article is 'Project SIM unlocks inertia issues'. The text of the article begins with 'Whether at home or at work, we all rely on a stable electricity network to provide power at the flick of a switch. Now, thanks to a successful innovation project led by National Grid and partner Reactive Technologies, grid stability can be measured around the clock in real time. Business Change Manager Bernie Dolan explains more.' Below the text are social media sharing icons for Facebook, LinkedIn, Twitter, Google+, and Email, with counts of 30, 570, and 0 respectively. At the bottom of the article, a red banner contains the text 'Article: Project SIM unlocks inertia issues'.

nationalgridconnecting.com/project-sim-unlocks-inertia-issues/

nationalgrid UK | US [Select reg]

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Connecting
News, debate and analysis on the UK and European energy industry

Posted: 18 October 2017 0 Comments

Project SIM unlocks inertia issues

Whether at home or at work, we all rely on a stable electricity network to provide power at the flick of a switch. Now, thanks to a successful innovation project led by National Grid and partner Reactive Technologies, grid stability can be measured around the clock in real time. Business Change Manager Bernie Dolan explains more.

Share 30 570 0

Article: Project SIM unlocks inertia issues

EirGrid & SONI produce an annual report on Transmission System Performance comprising 73 pages

All-Island Transmission
System Performance Report
2017



5.4.4 Frequency Excursions

Table 12: Frequency Excursions in 2017

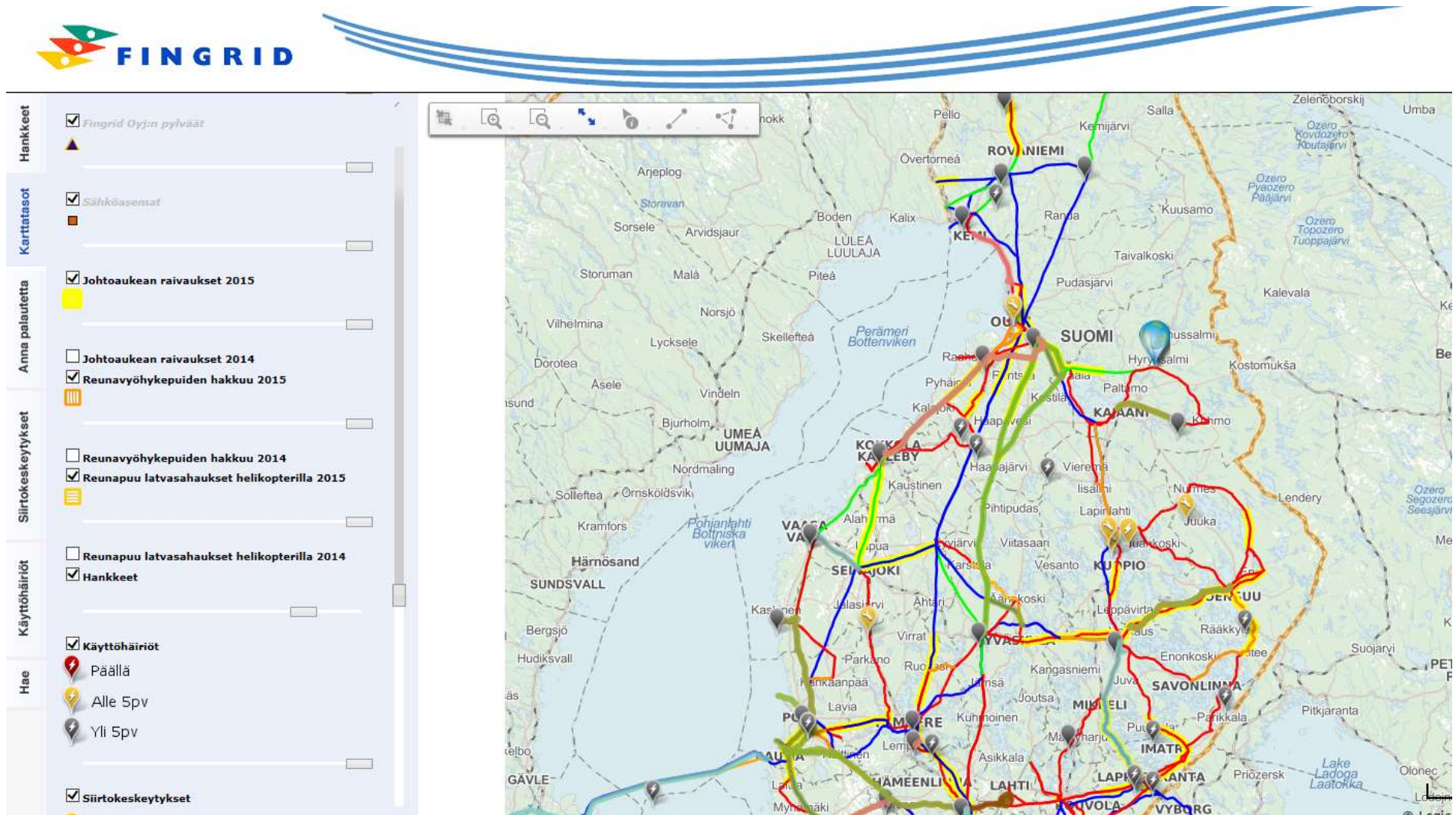
Cause of Incident	Date	Time (UTC)	MW Lost	Pre-incident Frequency (Hz)	Nadir (Hz)	Min Frequency POR (Hz)	Rate of Change of Frequency		t<49.6 Hz seconds	t<49.5 Hz seconds	N-S Tie Line Flow MW
							Max df/dt Hz/Sec	Average df/dt Hz/Sec			
Moyle	21/03/2017	12:15:53	244	49,940	49,595	49,629	-0.55	-0.2	1.2	0	112
Huntstown Unit 2	24/05/2017	06:32:39	350	49,980	49,571	49,613	-0.26	-0.19	2.9	0	-34
Aghada AD2	20/06/2017	11:50:34	410	50,000	49,386	49,413	-0.42	-0.33	6.9	5	-46
Huntstown Unit 2	15/07/2017	17:08:13	350	49,950	49,381	49,402	-0.26	-0.23	6.7	4.7	-35
Whitegate WG1	08/09/2017	11:37:00	180	50,000	49,399	49,45	-0.42	-0.32	6.5	4.1	64
Aghada AD2	24/09/2017	11:59:48	370	50,020	49,305	49,622	-0.5	-0.2	201.5	66.6	-89
Great Island GI4	05/10/2017	05:27:49	215	49,990	49,369	49,396	-0.45	0.24	7.9	5.4	-62
Great Island GI4	27/11/2017	17:02:50	410	49,990	49,245	49,255	-0.58	-0.29	8.4	7	-125

Note NS and Interconnection flows, +VE represents an import to Northern Ireland

Definitions


Time 0 seconds	Considered to be when the frequency falls through 49.8 Hz
Pre incident frequency	Average system frequency between t – 60 seconds and t + 30 seconds
Nadir (Hz)	Minimum system frequency from t 0 to t + 6 minutes
Minimum Frequency POR (Hz)	Minimum frequency during POR period from t + 5 seconds to t + 15 seconds
Max df/dt Hz/Sec	Maximum negative rate of change of frequency during the period t – 5 seconds to t + 30 seconds, (This is calculated from a five point moving average with a sample rate of 100 milliseconds) Measured at Kilroot Power Station
Average df/dt Hz/Sec	This is the rate of change of frequency observed between two points in time, The first point being when the frequency passes through 49.8 Hz and the second when the frequency nadir is observed between t + 5 seconds and t + 15 seconds Measured at Kilroot Power Station

FinGrid web site shows transmission works, maintenance and faults



ENTSO-E DATA on non-synchronous capacity **elementpower**

ENTSO-E data demonstrates that the GB system is the most advanced in terms of non synchronous infeeds which indicates that monitoring is needed to ensure this development does not cause unforeseen problems.



REPORT

Future System Inertia 2

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